

REMARKS

The Office Action dated July 8, 2004 has been reviewed and the comments of the U.S. Patent and Trademark Office have been considered. The above amendments to the claims and the following remarks are respectfully submitted to place the application in condition for allowance. The Examiner has withdrawn claims 1-8 and 16. By this Amendment, Applicant has amended claims 11, 12, 14, 15, 22 and 24. In addition, Applicant has added new claims 25-40. Accordingly, claims 9-15 and 17-40 are currently pending in this Application.

Allowable Claims

Applicant thanks the Examiner for the helpful telephone interview of July 30, 2004 and the subsequent follow-up telephone conversation of August 13, 2004. Applicant includes with this Amendment and Response a Summary of the Substance of the Interview. In addition, Applicant thanks the Examiner for indicating that claims 14 and 15 would be allowable if rewritten to overcome the rejections under 35 U.S.C. §112, second paragraph.

Election/Restrictions

Applicant hereby acknowledges withdrawal of claims 1- 8 and 16 by the Examiner.

Claim Objection

The Examiner objects to claims 14, 15 and 24 because of the following informalities: in claims 14-15, the term “layers are” should read “layer is”; and in claim 24, the term “comprise” should read “comprises”. Claims 14-15 and 24 have been amended to correct these

informalities. Withdrawal of the claim objection is respectfully requested. In addition, claims 11 and 12 have been similarly amended so that the term “comprise” reads “comprises”.

Objection to the Specification

The Examiner objects to the specification, stating that the patent number of the parent case should be included in the continuation portion of the specification. The specification has been amended to recite the patent number of the parent case. Applicant respectfully requests withdrawal of the objection to the specification.

Rejection under 35 U.S.C. § 112, First Paragraph

Claims 9-15 and 17-24 are rejected under 35 U.S.C. §112, First Paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor, at the time the application was filed, had possession of the claimed invention. The Examiner states that the phrase “wherein said pierced slots do not cause appreciable expansion of the resulting wood board” is new matter.

Applicant respectfully traverses this rejection. The Examiner’s attention is directed to the following passages in the specification that show support for this phrase: page 4, lines 21-25 (describing how that placement of the longitudinal slots produce a finished board with “increasing stability”); page 5, lines 7-8 (describing how the claimed method results in boards with “dimensional stability”); page 7, line 23 through page 8, line 3 (describing how the piercing method results in relieved shrinkage stress, decreases overall shrinkage and produces a final wood board with structural stability); and page 9, lines 12-13 (indicating that the claimed method

produces a board with unexpected dimensional stability). The phrase “wherein said pierced slots do not cause appreciable expansion of the resulting wood board” is therefore clearly supported in the application as originally filed. In addition, during the telephone interview of July 30, 2004 and the subsequent follow-up telephone conversation on August 13, 2003, the Examiner agreed that the phrase “does not cause appreciable expansion” was acceptable terminology. As such, Applicant respectfully requests withdrawal of this ground of rejection.

The Examiner also rejects claim 22 under 35 U.S.C. §112, First Paragraph, stating that the values for the strips, as recited in the claim, are not fully supported by the originally filed specification. Claim 22 has been amended to recite strips with a width of up to three and one-quarter inches. Support for this amendment may be found in Figure 3. Claim 22 is therefore fully supported in the specification. Withdrawal of the rejection is respectfully requested.

Rejections Under 35 U.S.C. §103(a)

Claims 9-13, 15 and 17-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tellman (U.S. Patent No. 4,655,869).

With respect to independent claim 9, the Examiner asserts that Tellman teaches a method for manufacturing wood boards that includes sandwiching a core layer having longitudinally pierced slots parallel to the veneer’s longitudinal grain structure, between a back veneer and a face veneer, such that the longitudinal grain structure of the veneer face layer adheres perpendicularly with respect to the structure of the core layer. The Examiner further states that Tellman, although teaching bonding of the face, core and back layers, does not suggest any particular bonding order and that this particular deficiency in Tellman is cured by conventional

teaching in the art. In addition, the Examiner states that the Tellman piercing is included in the bounds of appreciable expansion. The Examiner concludes by stating that the degree of expansion incorporated by “appreciable expansion” does not have defined limits in the pending application. Applicant respectfully disagrees that the presently claimed invention is unpatentable over Tellman and traverses as follows.

Applicant has amended claim 9 to recite a method of manufacturing wood boards utilizing veneer sheets with longitudinally pierced slots wherein said pierced slots do not result in appreciable expansion of the resulting wood board. This amendment clearly differentiates Applicant’s claimed invention from that described in Tellman and thus makes the obviousness rejection moot.

Tellman aims to reduce the cost of structural sheathing plywood by using expanded veneer as the core layer in a sandwich structure with the result that somewhat weakened plywood veneer is obtained. Removing the amount of wood in the inner layer lowers these costs. Tellman teaches, “[a]n effective way to remove wood from the innerplies is to expand the veneer in the perpendicular-to-the grain direction.” (Col. 2, lines 46-48). In regards to the core inner layer, Tellman teaches “there must be expansion of the veneer in a direction perpendicular to the grain without also reducing its thickness appreciably.” (Col. 2, lines 66-68) (emphasis added).

The Tellman disclosure further describes his procedure in which green wood veneer sheets are sliced using nip rollers or other blades to produce cuts of approximately 1/16th of an inch in width. These cuts function to permit expansion of the veneer. The wood board is then crushed with rollers to make sure the cuts do not close and to achieve permanent lateral expansion. (Col. 3, lines 34-50). The disclosure states “It is also important that a small amount

of wood be crushed at each point where the veneer is wedged apart. This crushed wood acts as a permanent wedge to keep the veneer in the expanded condition after the blade is withdrawn.” (Col. 3, lines 7-11). Tellman contemplates “The veneer sheet (18) may be run through this nip up to four times on each side to achieve expansions of 30% to 40% after drying compared with an unexpanded sheet.” (Col. 3, lines 41-44). Thus, even a single pass is designed to generate a size increase of about 8-10%. Moreover, Tellman is concerned to not weaken the strength of the wood appreciably in the direction of the grain or perpendicular to the grain. Thus, he appears to teach away from a process designed to weaken the wood. *See, generally*, Tellman at col. 5.

In contrast, Applicant’s invention discloses that the veneer sheets of the core inner layer are pierced with holes or slots about 0.375 inches by 0.75 inches and spaced about 0.375 inches axially and 0.75 inches transversely. These piercing dimensions are larger than those described in Tellman and thus result in holes or slots that provide channels for which glue can travel from one side of the sheet to the other. The slots also provide a vertical surface for the glue to give additional strength and stress relief of the grain veneer sheet. Applicant’s specification states “Such piercing has been found to relieve shrinkage stress in veneer sheets, retard further shrinkage or swelling due to changes in ambient conditions, and to reduce movement during the subsequent gluing, machining, and finishing process; with the final product being structurally stable while maintaining strength and the necessary flexibility for its intended end use.” (Page 7, line 23 through page 8, line 3). Thus, Applicant’s process uses the piercing action to remove some of the strength of the inner layers so that they will be more manageable during the gluing, machining and finishing process, with the unexpected benefit that the final product is more structurally stable than the prior art wood flooring. Applicant’s specification does not disclose a

piercing process that appreciably expands the wood layer in a direction perpendicular to the grain, nor does it contemplate expansion of the inner layer up to 40%.

Applicant's present invention also differs from Tellman in that the pierced veneer sheets only need to be sent through the roller once. Additionally, the rollers apply only enough pressure to reduce the elastic properties of the sheet. See Torrey Declaration at ¶10, a copy of which is attached. Applicant's invention never contemplates applying pressure great enough to cause crushing of the wood at each point where the veneer is wedged apart by piercing. The wood veneer created is not designed to experience the permanent expansion at the pierced slots as taught in Tellman. This results in greater dimensional stability (very little shrinkage or warpage) that gives the unexpected property of having better installation parameters than solid hardwood flooring.

The Tellman reference does not teach or suggest all of the limitations of newly amended claim 9 or the resulting dependent claims. In particular, Tellman does not teach a process of manufacturing wood boards comprising wood sheets with longitudinally pierced slots, wherein the pierced slots do not cause appreciable expansion of the resulting wood board. The record fails to show that there would have been a reasonable expectation of success by one of skill in the art to use the teachings of Tellman to make an engineered wood-flooring product that has dimensional stability. In fact, Tellman appears to teach away from Applicant's claimed invention because the specification requires permanent expansion of the wood veneer in a direction perpendicular to the grain through crushing of the wood at each point where the wood is pierced.

In the telephone interview of July 30, 2004 and the subsequent follow-up telephone conversation on August 13, 2003, the Examiner agreed that the phrase “does not cause appreciable expansion” was acceptable terminology. In addition, as explained above, the Examiner acknowledges, “the expansion caused by Tellman’s process is included in the bounds of appreciable expansion in that the veneers of Tellman do expand...”

As a result, claim 9 is unobvious over Tellman, and Applicant respectfully requests that the Examiner withdraw this ground for rejection.

Since claims 10-13, 15 and 17-24, now pending in this application, depend directly or indirectly from claim 9, Applicant also respectfully requests that the obviousness rejections attached to those claims as a result of Tellman be withdrawn.

Newly added dependent claims 25-40 add the limitation that the wood veneer has been dried to an average 6% to 8% moisture content prior to placing the pierced slots therein. Support for these newly added claims may be found in the specification at page 6, lines 11-14 and page 7, lines 21-23. New claims 25-40 are therefore fully supported in the specification.

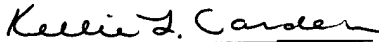
All Claims Recite Allowable Subject Matter

The specification has been amended to recite the patent number of the parent case. Claims 11, 12, 14, 15 and 24 have been amended to correct minor informalities. Claim 22 has been amended to recite new dimensions. Claim 9 (and thus its dependencies) has been amended to include the phrase “wherein said pierced slots do not cause appreciable expansion of the resulting wood board”. Newly added claims 25-40 recite the limitation that the wood veneer has been dried to an average 6% to 8% moisture content prior to creating the pierced slots.

Accordingly, Applicants respectfully submit that pending claims 9-15 and 17-39 are in condition for allowance.

Applicant does not believe that any fees or an extension of time under 37 C.F.R. 1.136 are required in conjunction with this submission. However, in the event that any additional extension of time is necessary to prevent the abandonment of this patent application, then such extension of time is hereby petitioned. The U.S. Patent and Trademark Office is hereby authorized to charge any fees that may be required in conjunction with this submission to Deposit Account Number 50-2228, referencing matter number 021247.0102N1US.

Respectfully submitted,


Kellie L. Carden
Reg. No. 52,696

PATTON BOGGS, LLP
8484 Westpark Drive, 9th Floor
McLean, Virginia 22102
Phone: (703) 744-8000
Fax: (703) 744-8001